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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2  
12828F LANCE, MISSILE NUMBER 5336, ROUND NUMBER 368-MSL, 2 OCTO--ETC(U)  
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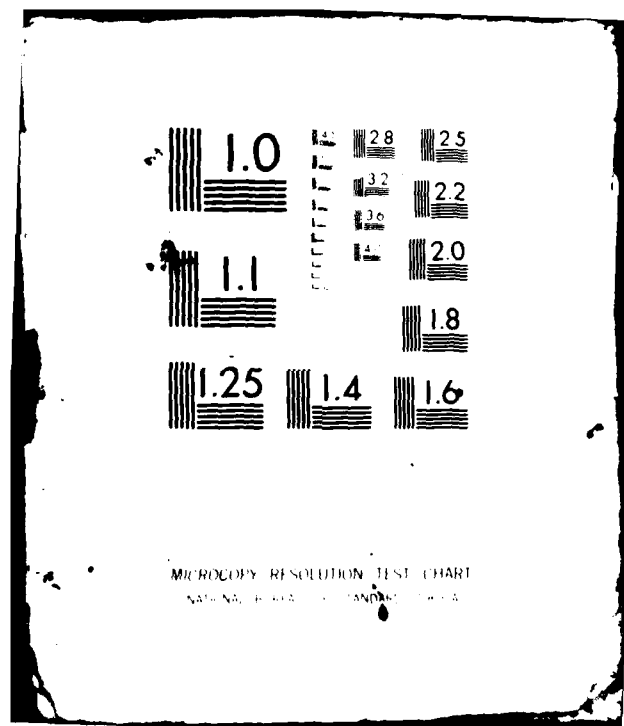
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A

## INTRODUCTION

12828F Lance, Missile Number 5336, Round Number 368-MSL,  
was launched from LC-33, White Sands Missile Range (WSMR), New Mexico,  
at 0900 MDT on 02 Oct 81. The scheduled launch time was  
0900 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), Wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from Nike Hercules radar tracked pilot balloon observation at:

## SITE AND ALTITUDE

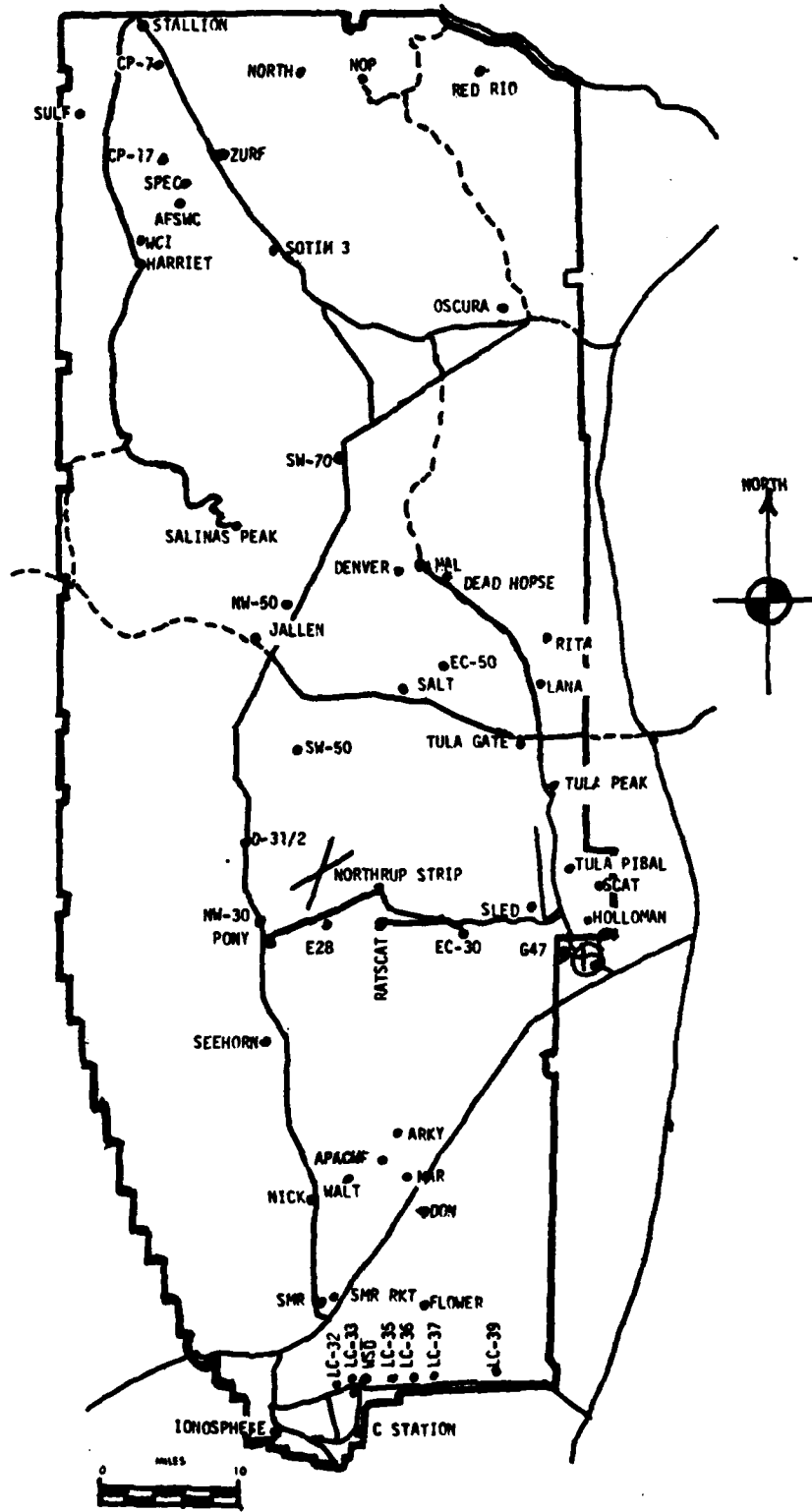
LC-33 11,800 feet

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to as high as possible in 500-foot increments.

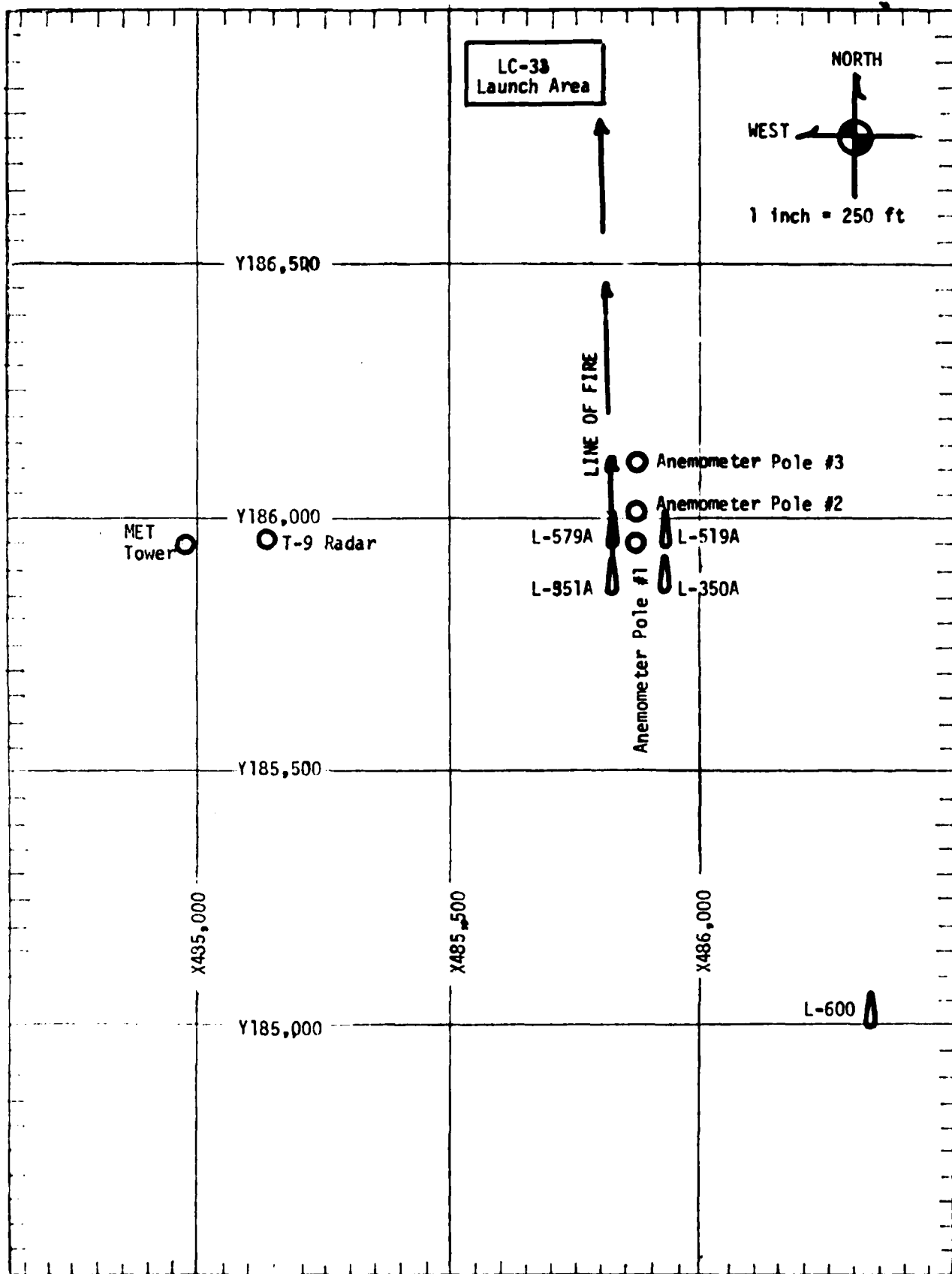
## SITE AND TIME

WSD	1000 MDT
APA	0815 MDT
JAL	0850 MDT

# WSMR METEOROLOGICAL SITES







# PROJECT SURFACE OBSERVATION

TABLE 1									
STATION LC-33 E&A									
DATE 02 Oct 81		X=184.932.64		Y=185.957.73		H=3983.0			
TIME M D I	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	DIRECTION degs	WIND SPEED kts	CHARACTER kts	VISIBILITY
0900	882.9	18.2	15.3	83	1055	295	01		15

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	AMT	TYPE	AMT	TYPE	
	4	SC	4000	6	AC	12000	

## PSYCHROMETRIC COMPUTATION

TIME: MDT	0900	
DRY BULB TEMP.	18.2	
WET BULB TEMP.	16.3	
WET BULB DEPR.	1.9	
DEW POINT	15.3	
RELATIVE HUMID.	83%	

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	C A L M		T-30	C A L M		T-30	C A L M	
T-20	C A L M		T-20	C A L M		T-20	C A L M	
T-10	C A L M		T-10	C A L M		T-10	C A L M	
T0.0	C A L M		T0.0	C A L M		T0.0	C A L M	
T+10	C A L M		T+10	C A L M		T+10	C A L M	

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	C A L M		T-30	C A L M	
T-20	C A L M		T-20	C A L M	
T-10	C A L M		T-10	C A L M	
T0.0	C A L M		T0.0	C A L M	
T+10	C A L M		T+10	C A L M	

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	C A L M		T-30	153	02
T-20	C A L M		T-20	153	02
T-10	C A L M		T-10	153	02
T0.0	C A L M		T0.0	153	02
T+10	C A L M		T+10	153	02



TABLE 5

## Launch, Mid-Range, and Impact Area Computer Met Messages

WSD 1000 MDT	APA 0815 MDT	JAL 0850 MDT
METCM1324064	METCM1326064	METCM1332065
021600122882	021430120883	021490124880
00284003 29500882	00320002 29270883	00000000 29260880
01298008 29320872	01298011 29210872	01356002 29190869
02302006 29060847	02286014 29050847	02314007 29030844
03309015 28830808	03305014 28840808	03297015 28790805
04347015 28620761	04332015 28620762	04355013 28560759
05351019 28340717	05362017 28390717	05343016 28310715
06361017 28000675	06342016 28030675	06340018 28040673
07361022 27700635	07333019 27720635	07336022 27680633
08371024 27400597	08329025 27460597	08338026 27370595
09390025 27100560	09333025 27330561	09338022 27050559
10358021 26820526	10343027 27070527	10325024 26820525
11360022 26490494	11329023 26500495	11329029 26470492
12365028 26030448	12318022 26070449	12314027 26040446
13383027 25410392	13386028 25230393	13383029 25330391
14384030 24620342	14394031 24560343	14385033 24570341
15414037 23880298	15402033 23840298	15392039 23830296
16416052 23110257	16418052 23120258	16413050 23100256
17413057 22330222	17412054 22350222	17411052 22380221
18424068 21570190	18425064 21620190	18412061 21600189
19423072 20850162	19427074 20890162	19420069 20900161
20440058 20450137	20443054 20660138	20425052 20640137
21416040 20260116	21398033 20410117	21394035 20470116
22402023 20240098	22411030 20190099	22403025 20370098
23371015 20450083	23349009 20460083	23373012 20680083
24288008 20880071	24340012 20780071	24346013 20920071
25359006 21010060	25140007 21110060	25080010 21190060
26595001 21290051	26248001 21440051	26394012 21440051

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

SIGNIFICANT LFVL DATA

2750020428  
WHITE SANDS

TABLE 6

STATION ALTITUDE 3989.00 FEET MSL  
2 OCT. 61 1000 HRS MDT  
ASCENSION NO. 028

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
081.9 3989.0	19.8	15.0	74.0
864.4 4555.1	17.0	13.7	81.0
950.0 5026.1	15.8	12.7	82.0
805.6 6520.9	13.3	12.4	94.0
729.2 9268.3	10.0	8.1	88.0
700.0 10382.1	7.0	6.3	95.0
550.4 16769.9	-3.6	-5.0	90.0
525.2 17985.5	-5.5	-7.6	85.0
500.0 19250.4	-7.8	-12.1	71.0
493.0 19611.0	-8.3	-13.0	69.0
466.7 21000.1	-12.8	-15.4	81.0
459.6 21385.9	-11.8	-17.8	61.0
445.8 22153.0	-12.6	-30.8	20.0
423.2 23453.6	-15.0	-32.8	20.0
400.0 24848.5	-18.0	-35.4	20.0
337.2 28965.2	-28.3	-42.1	25.0
300.0 31692.2	-34.2	-45.6	30.0
267.0 34343.4	-40.4	-50.6	32.0
250.0 35810.8	-43.5		
200.0 40620.8	-55.3		
170.4 43945.5	-62.0		
150.0 46506.1	-68.4		
143.6 47370.4	-67.4		
135.4 48533.0	-69.5		
127.2 49762.9	-69.2		
115.6 51645.8	-69.5		
112.0 52265.4	-71.4		
100.0 54476.1	-71.2		
81.4 58515.6	-69.0		
70.0 61534.3	-63.5		
61.4 64192.0	-63.6		
50.0 68392.2	-60.0		
44.0 71050.6	-56.6		
39.0 73588.9	-55.0		
36.6 74936.7	-53.0		
30.0 79184.7	-52.2		
25.2 82912.4	-52.8		
20.0 87900.4	-48.2		
13.6 96339.9	-46.9		
10.0 103167.5	-41.9		

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

SIGNIFICANT LEVEL DATA

27500 0628  
 WHITE SANDS

TABLE 6 CONT

STATION ALTITUDE 3989.00 FEET MSL  
 2 OCT. 41 10 10 HRS MDT  
 ASCENSION NO. 628

GEOMETRIC ALTITUDE	TEMPERATURE	REL. HUM.
PRESSURE	AIR	PERCENT
MILLIBARS	DEGREES	
MSL FEET	CENTIGRADE	
7.0 111195.1	-41.0	
6.6 112526.9	-39.5	

STATION ALTITUDE 3489.00 FEET ASL  
2 OCT. 61 1000 HRS MDT  
ASCENSION NO. 028

UPPER AIR DATA  
2750020626  
WHITE SANDS  
TABLE 7

GEODETIC COORDINATES  
32.40043 LAT UEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3489.0	881.9	19.8	15.0	74.0	1041.0	669.3	160.0	2.9	1.000308
4000.0	881.6	19.7	15.0	74.1	1040.8	669.2	160.2	3.0	1.000307
4500.0	866.1	17.3	13.9	80.3	1031.7	666.2	163.7	5.1	1.000301
5000.0	850.8	15.9	12.8	81.9	1018.8	664.5	167.9	7.3	1.000294
5500.0	835.7	15.0	12.7	85.8	1003.6	663.5	169.1	9.5	1.000291
6000.0	820.8	14.2	12.5	89.8	988.5	662.6	170.8	11.8	1.000287
6500.0	806.2	13.3	12.4	93.8	973.7	661.6	175.5	14.4	1.000283
7000.0	791.7	12.7	11.6	93.0	958.5	660.9	179.8	15.9	1.000277
7500.0	777.5	12.1	10.8	91.9	943.4	660.1	186.2	15.5	1.000271
8000.0	763.5	11.5	10.1	90.8	928.6	659.3	192.0	15.3	1.000265
8500.0	749.8	10.9	9.3	89.7	914.1	658.6	196.7	15.5	1.000259
9000.0	736.3	10.3	8.5	88.6	899.7	657.8	198.8	16.1	1.000253
9500.0	723.0	9.4	7.7	89.5	886.6	656.6	199.1	16.8	1.000248
10000.0	709.9	8.0	6.9	92.6	874.8	655.0	198.4	17.5	1.000243
10500.0	696.9	6.8	6.0	94.9	862.8	653.5	197.4	18.3	1.000238
11000.0	683.9	6.0	5.2	94.5	849.4	652.5	197.6	19.0	1.000232
11500.0	671.2	5.1	4.3	94.1	836.2	651.4	198.3	19.6	1.000227
12000.0	658.6	4.3	3.4	93.7	823.2	650.4	200.0	20.2	1.000222
12500.0	646.4	3.5	2.5	93.3	810.5	649.4	202.2	20.7	1.000217
13000.0	634.3	2.7	1.6	93.0	797.9	648.3	204.3	21.5	1.000212
13500.0	622.5	1.8	.8	92.6	785.5	647.3	206.2	22.4	1.000207
14000.0	610.9	1.0	-.1	92.2	773.4	646.3	208.1	23.1	1.000203
14500.0	599.5	.2	-1.0	91.8	761.4	645.2	209.9	23.6	1.000198
15000.0	588.3	-.7	-1.9	91.4	749.6	644.2	212.0	23.4	1.000194
15500.0	577.3	-1.5	-2.8	91.0	738.0	643.2	214.4	23.0	1.000190
16000.0	566.6	-2.3	-3.6	90.6	726.5	642.1	217.6	22.3	1.000186
16500.0	556.0	-3.2	-4.5	90.2	715.3	641.1	219.1	21.9	1.000182
17000.0	545.5	-4.0	-5.5	89.1	704.0	640.1	215.7	21.9	1.000178
17500.0	535.1	-4.7	-6.6	87.0	692.7	639.1	211.5	22.2	1.000174
18000.0	524.9	-5.5	-7.7	84.8	681.6	638.1	205.0	23.1	1.000170
18500.0	514.8	-6.4	-9.4	79.3	670.9	636.9	200.4	24.2	1.000165
19000.0	504.9	-7.3	-11.2	73.8	660.4	635.8	200.5	25.1	1.000161
19500.0	495.1	-8.1	-12.7	69.6	649.8	634.8	201.0	25.9	1.000157
20000.0	485.5	-9.6	-13.6	72.4	640.6	633.0	203.2	26.3	1.000154
20500.0	476.0	-11.2	-14.4	76.7	632.0	631.1	204.9	26.6	1.000152
21000.0	466.7	-12.8	-15.4	81.0	623.5	629.1	204.8	26.5	1.000149
21500.0	457.5	-11.9	-19.1	54.9	609.5	630.0	204.9	26.4	1.000143
22000.0	448.5	-12.4	-27.1	28.2	599.0	629.2	205.2	26.8	1.000137
22500.0	439.7	-13.2	-31.4	20.0	589.1	628.2	205.6	27.2	1.000134
23000.0	430.9	-14.2	-32.1	20.0	579.5	627.1	206.5	27.5	1.000131



UPPER AIR DATA  
275002062H  
WHITE SANDS  
TABLE 7 CONT

STATION ALTITUDE 3989.00 FEET MSL  
2 OCT. 81  
ASCENSION NO. 628

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	422.4	-15.1	20.0	570.1	625.9	207.4	27.7	1.000129
24000.0	414.0	-16.2	20.0	561.0	624.6	208.3	27.0	1.000127
24500.0	405.7	-17.3	20.0	552.1	623.3	209.3	26.3	1.000125
25000.0	397.5	-18.4	20.2	543.4	621.9	213.3	26.7	1.000123
25500.0	389.3	-19.6	20.8	534.9	620.4	217.3	27.2	1.000121
26000.0	381.3	-20.9	21.4	526.5	618.8	218.4	28.3	1.000119
26500.0	373.5	-22.1	22.0	518.2	617.3	218.8	29.6	1.000117
27000.0	365.8	-23.4	22.6	510.2	615.8	218.0	29.9	1.000115
27500.0	358.3	-24.6	23.2	502.2	614.2	216.9	29.9	1.000113
28000.0	351.0	-25.9	23.8	494.4	612.7	216.0	29.8	1.000111
28500.0	343.8	-27.1	24.4	486.7	611.1	215.3	29.7	1.000109
29000.0	336.7	-28.4	25.1	479.1	609.6	215.0	30.1	1.000108
29500.0	329.6	-29.5	26.0	471.0	608.2	214.9	30.6	1.000106
30000.0	322.6	-30.5	26.9	463.1	606.9	218.0	31.8	1.000104
30500.0	315.7	-31.6	27.8	455.3	605.5	221.9	33.4	1.000102
31000.0	309.0	-32.7	28.7	447.7	604.1	226.2	34.1	1.000100
31500.0	302.5	-33.8	29.6	440.2	602.8	230.6	34.6	1.000099
32000.0	296.0	-34.9	30.2	432.7	601.3	234.0	36.9	1.000097
32500.0	289.5	-36.1	30.6	425.4	599.9	236.7	39.8	1.000095
33000.0	283.2	-37.3	31.0	418.2	598.4	237.8	43.3	1.000094
33500.0	277.1	-38.4	31.4	411.2	596.9	238.4	47.2	1.000092
34000.0	271.1	-39.6	31.7	404.3	595.4	237.7	49.1	1.000090
34500.0	265.1	-40.7	28.6*	397.4	593.9	236.4	50.1	1.000089
35000.0	259.3	-41.8	17.7*	390.3	592.6	234.7	50.8	1.000087
35500.0	253.5	-42.8	6.8*	383.5	591.2	232.8	51.3	1.000085
36000.0	247.8	-44.0		376.7	589.8	231.7	51.9	1.000084
36500.0	242.1	-45.2		370.0	588.2	231.7	52.7	1.000082
37000.0	236.6	-46.4		363.5	586.6	231.9	53.6	1.000081
37500.0	231.2	-47.6		357.1	585.0	232.5	54.8	1.000080
38000.0	225.9	-48.9		350.9	583.4	232.9	56.0	1.000078
38500.0	220.7	-50.1		344.7	581.8	232.7	57.2	1.000077
39000.0	215.7	-51.3		338.7	580.2	232.5	58.3	1.000075
39500.0	210.7	-52.5		332.8	578.6	233.5	59.8	1.000074
40000.0	205.9	-53.8		327.0	577.0	234.4	61.3	1.000073
40500.0	201.2	-55.0		321.3	575.4	235.5	63.0	1.000072
41000.0	196.4	-56.0		315.2	574.0	236.7	64.8	1.000070
41500.0	191.8	-57.1		309.1	572.7	237.5	67.4	1.000069
42000.0	187.2	-58.1		303.2	571.3	238.0	70.6	1.000068
42500.0	182.7	-59.1		297.3	570.0	238.5	73.0	1.000066
43000.0	178.4	-60.1		291.6	568.7	238.9	73.4	1.000065

AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL				UPPER AIR DATA				GEODETIC COORDINATES			
2 OCT. 61				275002062H				32.40043 LAT DEG			
ASCENSION NO. 628				WHITE SANDS				106.37033 LON DEG			
				TABLE 7 CONT							
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND		WIND DATA	INDEX OF REFRACTION		
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE			KNOTS	DEGREES(TN)	KNOTS			
43500.0	174.1	-61.1			286.0	567.3	239.3	73.8	1.000064		
44000.0	169.9	-62.1			280.6	565.4	240.0	73.8	1.000062		
44500.0	165.8	-63.4			275.3	564.2	240.7	73.8	1.000061		
45000.0	161.7	-64.6			270.1	562.6	241.3	73.5	1.000060		
45500.0	157.7	-65.9			265.1	560.9	241.8	72.9	1.000059		
46000.0	153.8	-67.1			260.1	559.2	242.3	72.3	1.000058		
46500.0	150.0	-68.4			255.3	557.5	242.8	68.5	1.000057		
47000.0	146.3	-67.8			248.2	558.2	243.3	64.1	1.000055		
47500.0	142.7	-67.6			241.8	558.5	243.8	60.3	1.000054		
48000.0	139.1	-68.5			236.8	557.3	244.2	58.2	1.000053		
48500.0	135.6	-69.4			231.9	556.0	244.6	56.1	1.000052		
49000.0	132.2	-69.4			226.1	556.1	244.5	54.2	1.000050		
49500.0	128.9	-69.3			220.3	556.3	244.2	52.2	1.000049		
50000.0	125.7	-69.2			214.7	556.3	243.6	49.9	1.000048		
50500.0	122.5	-69.3			209.4	556.2	241.6	45.4	1.000047		
51000.0	119.5	-69.4			204.2	556.1	239.3	41.0	1.000045		
51500.0	116.5	-69.5			199.2	556.0	235.9	37.7	1.000044		
52000.0	113.5	-70.6			195.2	554.5	231.5	35.3	1.000043		
52500.0	110.7	-71.4			191.1	553.4	226.5	33.2	1.000043		
53000.0	107.9	-71.3			186.2	553.4	227.1	32.1	1.000041		
53500.0	105.1	-71.3			181.4	553.5	228.2	31.0	1.000040		
54000.0	102.5	-71.2			176.8	553.6	228.8	29.4	1.000039		
54500.0	99.9	-71.2			172.3	553.6	227.9	26.2	1.000038		
55000.0	97.4	-70.9			167.7	554.0	226.8	23.1	1.000037		
55500.0	94.9	-70.6			163.3	554.4	222.6	20.6	1.000036		
56000.0	92.5	-70.4			159.0	554.4	215.5	19.0	1.000035		
56500.0	90.2	-70.1			154.8	555.1	207.2	17.6	1.000034		
57000.0	87.9	-69.8			150.7	555.5	207.6	16.7	1.000034		
57500.0	85.7	-69.6			146.7	555.9	204.5	15.7	1.000033		
58000.0	83.6	-69.3			142.8	556.3	209.4	15.4	1.000032		
58500.0	81.5	-69.0			139.0	556.6	209.9	16.0	1.000031		
59000.0	79.5	-68.1			135.0	557.8	210.3	16.6	1.000030		
59500.0	77.5	-67.2			131.1	559.1	206.7	14.9	1.000029		
60000.0	75.6	-66.3			127.3	560.3	199.9	12.5	1.000028		
60500.0	73.7	-65.4			123.6	561.5	189.8	10.2	1.000028		
61000.0	71.9	-64.5			120.0	562.8	171.9	8.2	1.000027		
61500.0	70.1	-63.6			116.5	564.0	146.4	7.3	1.000026		
62000.0	68.4	-63.5			113.7	564.1	137.3	7.5	1.000025		
62500.0	66.7	-63.5			110.9	564.0	147.3	7.7	1.000025		
63000.0	65.1	-63.6			108.2	564.0	156.6	8.0	1.000024		

UPPER AIR DATA  
2750020628  
WHITE SANDS  
TABLE 7 CONT

STATION ALTITUDE 3989.00 FEET MSL  
2 OCT. 81  
ASCENSION NO. 628

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES(TN))	SPEED KNOTS	INDEX OF REFRACTION
63500.0	63.5	-63.6		105.6	564.0	166.9	7.2	1.000024
64000.0	62.0	-63.6		103.0	564.0	180.6	6.3	1.000023
64500.0	60.5	-63.3		100.4	564.3	196.9	5.8	1.000022
65000.0	59.0	-62.9		97.8	564.9	213.5	5.3	1.000022
65500.0	57.6	-62.5		95.2	565.5	231.4	5.4	1.000021
66000.0	56.2	-62.1		92.8	566.0	241.2	5.4	1.000021
66500.0	54.8	-61.6		90.3	566.6	242.6	5.0	1.000020
67000.0	53.5	-61.2		88.0	567.2	244.4	4.6	1.000020
67500.0	52.2	-60.8		85.7	567.8	244.7	3.2	1.000019
68000.0	51.0	-60.3		83.4	568.3	244.1	1.6	1.000019
68500.0	49.7	-59.9		81.2	569.0	225.1	.0	1.000018
69000.0	48.6	-59.2		79.1	569.8	45.1	1.6	1.000018
69500.0	47.4	-58.6		77.0	570.7	45.1	3.2	1.000017
70000.0	46.3	-57.9		74.9	571.5	47.4	4.2	1.000017
70500.0	45.2	-57.3		72.9	572.4	55.2	4.1	1.000016
71000.0	44.1	-56.7		71.0	573.2	63.5	4.0	1.000016
71500.0	43.1	-56.3		69.2	573.7	75.1	4.2	1.000015
72000.0	42.1	-56.0		67.5	574.1	87.2	4.7	1.000015
72500.0	41.1	-55.7		65.8	574.5	96.5	5.4	1.000015
73000.0	40.1	-55.4		64.2	574.9	118.3	5.5	1.000014
73500.0	39.2	-55.1		62.6	575.3	141.2	6.4	1.000014
74000.0	38.3	-54.4		60.9	576.2	156.8	8.0	1.000014
74500.0	37.4	-53.6		59.3	577.2	171.2	9.9	1.000013
75000.0	36.5	-53.0		57.7	578.1	181.0	12.3	1.000013
75500.0	35.6	-52.9		56.4	578.2	187.6	14.9	1.000013
76000.0	34.8	-52.8		55.1	578.3	189.1	13.1	1.000012
76500.0	34.0	-52.7		53.8	578.4	189.6	10.0	1.000012
77000.0	33.2	-52.6		52.5	578.5	190.6	6.8	1.000012
77500.0	32.5	-52.5		51.3	578.7	187.8	3.6	1.000011
78000.0	31.7	-52.4		50.0	578.8	132.7	.7	1.000011
78500.0	31.0	-52.3		48.9	578.9	29.8	3.0	1.000011
79000.0	30.3	-52.2		47.7	579.0	31.5	4.8	1.000011
79500.0	29.6	-52.3		46.6	579.0	43.1	5.2	1.000010
80000.0	28.9	-52.3		45.6	578.9	52.9	5.8	1.000010
80500.0	28.2	-52.4		44.5	578.8	61.3	6.2	1.000010
81000.0	27.6	-52.5		43.5	578.7	70.3	6.2	1.000010
81500.0	26.9	-52.6		42.5	578.7	79.0	6.4	1.000009
82000.0	26.3	-52.7		41.5	578.5	86.8	6.7	1.000009
82500.0	25.7	-52.7		40.6	578.4	92.7	6.7	1.000009
83000.0	25.1	-52.7		39.7	578.4	98.6	6.7	1.000009

STATION ALTITUDE 3989.00 FEET MSL  
 2 OCT. 81 1900 HRS PDT  
 ASCENSION NO. 628

UPPER AIR DATA  
 27502062H  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 7 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(T,1)	SPEED KNOTS	INDEX OF REFRACTION
83500.0	24.5	-52.3		34.7	579.0	104.4	6.8	1.000009
84000.0	24.0	-51.8		37.7	579.6	101.0	6.0	1.000008
84500.0	23.4	-51.3		36.8	580.2	92.0	5.0	1.000008
85000.0	22.9	-50.9		35.9	580.8	78.7	4.1	1.000008
85500.0	22.4	-50.4		35.0	581.4	66.4	3.5	1.000008
86000.0	21.8	-50.0		34.1	582.0	61.7	2.9	1.000008
86500.0	21.3	-49.5		33.2	582.6	54.8	2.3	1.000007
87000.0	20.9	-49.0		32.4	583.2	44.0	1.8	1.000007
87500.0	20.4	-48.6		31.6	583.8	61.5	1.8	1.000007
88000.0	19.9	-48.2		30.8	584.3	78.8	1.9	1.000007
88500.0	19.5	-48.1		30.1	584.4	93.2	2.1	1.000007
89000.0	19.0	-48.0		29.4	584.5	110.6	1.9	1.000007
89500.0	18.6	-48.0		28.8	584.6	139.3	1.7	1.000006
90000.0	18.2	-47.9		28.1	584.7	167.9	1.9	1.000006
90500.0	17.8	-47.8		27.5	584.8	182.6	2.5	1.000006
91000.0	17.4	-47.7		26.8	584.9	179.1	3.5	1.000006
91500.0	17.0	-47.6		26.2	585.0	177.2	4.5	1.000006
92000.0	16.6	-47.6		25.6	585.1	175.9	5.5	1.000006
92500.0	16.2	-47.5		25.0	585.2	168.9	4.8	1.000006
93000.0	15.8	-47.4		24.4	585.3	156.5	3.9	1.000005
93500.0	15.5	-47.3		23.9	585.4	138.2	3.3	1.000005
94000.0	15.1	-47.3		23.3	585.5	116.2	3.1	1.000005
94500.0	14.8	-47.2		22.8	585.6	111.2	2.8	1.000005
95000.0	14.5	-47.1		22.3	585.7	104.9	2.5	1.000005
95500.0	14.1	-47.0		21.8	585.8	97.2	2.3	1.000005
96000.0	13.8	-47.0		21.3	585.9	87.0	2.3	1.000005
96500.0	13.5	-46.8		20.8	586.1	79.1	4.7	1.000005
97000.0	13.2	-46.4		20.3	586.6	76.5	7.0	1.000005
97500.0	12.9	-46.1		19.6	587.1	75.2	9.4	1.000004
98000.0	12.6	-45.7		19.3	587.6	75.1	11.7	1.000004
98500.0	12.3	-45.3		18.9	588.0	80.5	13.9	1.000004
99000.0	12.1	-45.0		18.4	588.5	84.3	16.1	1.000004
99500.0	11.8	-44.6		18.0	589.0	87.3	18.4	1.000004
100000.0	11.5	-44.2		17.6	589.4	90.1	20.4	1.000004
100500.0	11.3	-43.9		17.1	589.9	98.5	19.5	1.000004
101000.0	11.0	-43.5		16.7	590.4	107.6	19.0	1.000004
101500.0	10.8	-43.1		16.3	590.9	116.9	19.0	1.000004
102000.0	10.5	-42.8		15.9	591.3	125.2	19.5	1.000004
102500.0	10.3	-42.4		15.6	591.8	125.3	20.2	1.000003
103000.0	10.1	-42.0		15.2	592.3	125.3	20.9	1.000003

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

UPPER AIR DATA  
2750020620  
WHITE SANDS  
TABLE 7 CONT

STATION ALTITUDE 3989.00 FEET MSL  
2 OCT. 61  
ASCENSION NO. 028

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
103500.0	9.9	-41.9		14.8	592.5	125.3	21.6	1.000003
104000.0	9.6	-41.8		14.5	592.5	125.5	22.2	1.000003
104500.0	9.4	-41.8		14.2	592.6	127.7	22.2	1.000003
105000.0	9.2	-41.7		13.9	592.7	129.9	22.2	1.000003
105500.0	9.0	-41.6		13.6	592.8	132.1	22.2	1.000003
106000.0	8.8	-41.6		13.3	592.8	134.4	22.2	1.000003
106500.0	8.6	-41.5		13.0	592.9	137.4	21.3	1.000003
107000.0	8.4	-41.5		12.7	593.0	140.8	20.3	1.000003
107500.0	8.2	-41.4		12.4	593.1	144.5	19.5	1.000003
108000.0	8.1	-41.4		12.1	593.1	148.4	18.8	1.000003
108500.0	7.9	-41.3		11.9	593.2	149.7	16.7	1.000003
109000.0	7.7	-41.2		11.6	593.3	150.9	14.5	1.000003
109500.0	7.5	-41.2		11.3	593.3	152.6	12.4	1.000003
110000.0	7.4	-41.1		11.1	593.4	154.9	10.2	1.000002
110500.0	7.2	-41.1		10.8	593.5			1.000002
111000.0	7.1	-41.0		10.6	593.6			1.000002
111500.0	6.9	-40.7		10.3	594.0			1.000002
112000.0	6.8	-40.1		10.1	594.7			1.000002
112500.0	6.6	-39.5		9.9	595.5			1.000002

STATION ALTITUDE 3980.00 FEET -SL  
 2 OCT. 81 1000 HRS MDT  
 ASCENSION NO. 028

MANDATORY LEVELS  
 2750020628  
 WHITE SANDS  
 TABLE 8

GEOGRAPHIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5022.	15.8	12.7	82.	168.0	7.4	
800.0	6709.	13.1	12.1	94.	177.0	15.5	
750.0	8489.	10.9	9.3	90.	196.7	15.5	
700.0	10372.	7.0	6.3	95.	197.6	18.1	
650.0	12365.	3.7	2.8	93.	201.0	20.5	
600.0	14490.	.2	-1.0	92.	209.9	23.6	
550.0	16767.	-3.6	-5.0	90.	217.2	21.9	
500.0	19223.	-7.8	-12.1	71.	200.6	25.5	
450.0	21884.	-12.4	-25.4	33.	205.1	26.8	
400.0	24807.	-18.0	-35.4	20.	212.0	26.5	
350.0	28030.	-26.1	-40.6	24.	215.9	29.8	
300.0	31628.	-34.2	-45.6	30.	232.0	35.1	
250.0	35732.	-43.5			231.7	51.6	
200.0	40530.	-55.3			235.8	63.4	
175.0	43289.	-60.9			239.2	73.7	
150.0	46380.	-68.4			242.7	68.6	
125.0	49962.	-69.3			243.3	49.2	
100.0	54307.	-71.2			228.0	26.5	
80.0	58664.	-68.4			210.2	16.4	
70.0	61323.	-63.5			146.2	7.3	
60.0	64428.	-63.2			200.8	5.7	
50.0	68135.	-60.0			241.0	.5	
40.0	72763.	-55.3			119.2	5.6	
30.0	78846.	-52.2			35.0	4.9	
25.0	82712.	-52.6			99.1	6.7	
20.0	87488.	-48.2			74.0	1.8	
15.0	93720.	-47.2			114.9	3.0	
10.0	102608.	-41.9			125.3	21.0	
7.0	110550.	-41.0					

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LONG DEG

SIGNIFICANT LEVEL DATA  
2750040035  
APACHE

TABLE 9

STATION ALTITUDE 3951.40 FEET MSL  
2 OCT. 41  
ASCENSION NO. 35

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
682.7 3051.4	17.5	85.8
850.0 5010.4	15.5	83.8
807.4 6441.7	13.1	96.6
714.8 9794.6	9.1	95.0
700.0 10364.3	7.4	95.0
652.6 12256.0	4.1	94.0
609.0 14098.1	.7	99.0
558.8 16368.7	-9	99.0
518.4 18334.0	-3.5	99.0
516.1 18449.2	-6.2	99.0
500.0 19262.8	-8.3	72.0
464.2 21149.6	-11.5	96.0
434.6 22804.8	-14.0	81.0
424.8 23373.5	-15.5	86.0
417.5 23803.0	-17.0	31.0
412.6 24093.8	-18.2	14.0
400.0 24052.5	-20.5	15.0
356.4 27635.1	-25.6	16.0
300.0 31673.4	-30.5	23.0
274.4 33709.0	-38.6	42.0
264.7 34519.9	-40.6	36.0
250.0 35793.2	-43.7	
200.0 40617.6	-50.5	
150.0 46508.7	-67.6	
129.8 49395.0	-65.5	
111.0 52153.9	-70.5	
100.0 54530.2	-72.0	
70.0 61587.4	-65.0	
50.0 68478.7	-57.9	
30.0 79264.0	-52.3	
20.0 87966.3	-51.1	
12.7 97770.2	-50.1	

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LONG DEG

UPPER AIR DATA  
2750050000  
APACHE

TABLE 10

STATION ALTITUDE 3,551.00 FEET SL  
2 OCT. 61 0815 HRS MDT  
ASCENSION NO. 35

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	TEMPERATURE DEWPOINT DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DIRECTION (DEGREES TRUE)	WIND SPEED KNOTS	INDEX OF REFRACTION
3951.4	882.7	17.5	15.0	85.0	1050.3	660.6	180.0	1.9	1.000310
4000.0	881.2	17.4	14.0	84.9	1048.8	660.5	177.3	2.2	1.000310
4500.0	865.6	16.5	13.7	84.0	1034.0	660.3	167.1	5.3	1.000302
5000.0	850.3	15.5	12.7	83.0	1019.5	664.1	164.4	8.4	1.000294
5500.0	835.2	14.7	12.6	87.4	1004.1	663.1	163.2	11.4	1.000291
6000.0	820.3	13.8	12.6	92.0	989.1	662.2	167.4	13.3	1.000287
6500.0	805.7	13.0	12.4	96.0	974.1	661.3	172.1	14.8	1.000284
7000.0	791.2	12.4	11.8	95.8	950.7	660.5	176.7	15.4	1.000278
7500.0	775.9	11.8	11.2	95.7	943.6	659.8	181.2	15.8	1.000272
8000.0	763.0	11.2	10.6	95.5	928.7	659.1	186.0	15.4	1.000267
8500.0	749.2	10.6	9.9	95.4	914.0	658.3	192.2	15.7	1.000261
9000.0	735.7	10.0	9.3	95.2	899.6	657.6	197.4	16.7	1.000256
9500.0	722.5	9.5	8.7	95.1	885.4	656.9	202.0	16.8	1.000251
10000.0	709.4	8.5	7.7	95.0	872.6	656.6	205.2	16.6	1.000245
10500.0	690.5	7.2	6.5	95.3	861.0	654.0	201.9	15.1	1.000238
11000.0	683.7	6.3	5.8	96.3	848.0	652.9	197.0	14.5	1.000234
11500.0	671.1	5.4	5.0	97.4	835.2	651.8	190.9	15.6	1.000229
12000.0	658.8	4.5	4.3	98.5	822.5	650.8	188.4	17.0	1.000224
12500.0	640.6	3.6	3.5	99.0	810.1	649.6	188.4	18.4	1.000219
13000.0	634.6	2.7	2.6	99.0	797.9	648.5	185.3	18.8	1.000214
13500.0	624.8	1.8	1.7	99.0	785.4	647.3	185.9	19.6	1.000210
14000.0	611.2	.9	.7	99.0	774.0	646.2	184.7	22.2	1.000205
14500.0	599.8	.4	.3	99.0	760.6	645.6	184.5	24.3	1.000201
15000.0	586.5	.1	-.1	99.0	747.5	645.2	185.3	25.4	1.000197
15500.0	571.5	-.3	-.4	99.0	734.4	644.8	185.8	25.9	1.000194
16000.0	560.7	-.6	-.8	99.0	721.6	644.4	187.1	26.3	1.000190
16500.0	550.0	-1.1	-1.2	99.0	709.2	643.8	188.7	26.6	1.000187
17000.0	545.5	-1.7	-1.9	99.0	697.6	643.0	190.2	26.8	1.000183
17500.0	535.2	-2.4	-2.5	99.0	686.1	642.2	191.6	26.9	1.000179
18000.0	525.1	-3.1	-3.2	99.0	674.9	641.4	192.5	26.5	1.000175
18500.0	515.1	-6.3	-6.7	97.3	670.7	637.2	192.3	25.5	1.000169
19000.0	505.1	-7.6	-10.3	80.7	661.4	635.5	190.4	24.1	1.000162
19500.0	495.4	-8.7	-13.2	70.0	651.4	634.1	185.0	22.2	1.000157
20000.0	485.7	-9.6	-14.7	65.7	640.9	633.0	173.5	20.8	1.000153
20500.0	470.2	-10.4	-16.3	61.5	630.5	631.3	171.2	20.2	1.000150
21000.0	460.9	-11.2	-18.0	57.3	620.3	630.8	167.7	20.4	1.000146
21500.0	457.8	-12.0	-17.9	61.3	610.0	629.9	167.0	21.1	1.000144
22000.0	440.7	-12.8	-17.3	68.8	593.6	629.0	172.5	21.9	1.000142
22500.0	433.9	-13.5	-16.0	76.4	589.5	628.1	179.3	23.0	1.000141
23000.0	431.2	-14.5	-16.8	82.7	580.0	627.0	189.6	24.6	1.000138



STATION ALTITUDE 3,514.0 FEET MSL  
2 OCT. 61 0815 HRS MDT  
ASCENSION 140. 35

UPPER AIR DATA  
2750050035  
APACHE

GEOLYTIC COORDINATES  
32.62700 LAT DEG  
106.39352 LONG DEG

# TABLE 10 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES TRUE)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	422.6	-15.9	69.8	571.4	625.1	199.2	26.1	1.000134
24000.0	414.2	-17.8	19.5	564.9	622.6	207.8	27.9	1.000128
24500.0	405.8	-19.4	14.5	557.1	620.6	212.3	28.6	1.000125
25000.0	397.6	-20.8	15.1	548.7	619.0	216.5	29.0	1.000123
25500.0	389.4	-21.7	15.2	539.4	617.4	220.5	29.0	1.000121
26000.0	381.4	-22.6	15.4	530.2	615.7	224.7	28.8	1.000119
26500.0	373.6	-23.5	15.6	521.3	614.6	227.4	29.3	1.000117
27000.0	365.9	-24.4	15.8	512.5	614.4	227.2	31.3	1.000115
27500.0	358.4	-25.4	16.0	503.4	613.3	225.5	32.4	1.000113
28000.0	350.9	-26.4	16.6	495.3	612.0	223.4	33.4	1.000111
28500.0	343.5	-27.5	17.5	487.1	610.6	220.9	32.9	1.000109
29000.0	336.2	-28.6	18.4	478.9	609.3	218.7	31.9	1.000107
29500.0	329.1	-29.7	19.2	471.0	607.9	217.1	29.9	1.000106
30000.0	322.2	-30.8	20.1	463.1	606.5	216.5	28.6	1.000104
30500.0	315.4	-31.9	21.0	455.4	605.1	215.7	27.9	1.000102
31000.0	308.7	-33.0	21.8	447.4	603.7	222.7	30.0	1.000100
31500.0	302.2	-34.1	22.7	440.4	602.3	229.2	33.5	1.000099
32000.0	295.7	-35.2	26.0	432.4	601.0	233.0	35.5	1.000097
32500.0	289.3	-36.2	30.7	425.3	599.8	234.7	37.1	1.000095
33000.0	283.1	-37.2	35.4	417.8	598.5	231.8	37.7	1.000094
33500.0	276.9	-38.2	40.0	410.5	597.2	230.1	41.0	1.000092
34000.0	270.9	-39.3	39.8	403.5	595.8	229.3	45.9	1.000090
34500.0	264.9	-40.6	36.1	396.4	594.2	230.8	48.4	1.000089
35000.0	259.1	-41.8	22.4**	390.0	592.6	232.7	50.0	1.000087
35500.0	253.3	-43.0	8.3**	383.4	591.0	234.5	51.2	1.000085
36000.0	247.6	-44.2		376.7	589.5	233.2	53.0	1.000084
36500.0	242.0	-45.3		369.9	588.1	232.1	54.4	1.000082
37000.0	236.4	-46.4		363.2	586.6	231.5	55.1	1.000081
37500.0	231.0	-47.5		356.7	585.2	231.5	54.8	1.000079
38000.0	225.7	-48.6		350.3	583.7	231.4	55.4	1.000078
38500.0	220.6	-49.8		344.0	582.3	231.3	56.8	1.000077
39000.0	215.5	-50.9		337.4	580.8	232.7	57.0	1.000075
39500.0	210.6	-52.0		331.4	579.3	234.9	56.8	1.000074
40000.0	205.8	-53.1		325.4	577.9	236.7	57.3	1.000073
40500.0	201.1	-54.2		320.0	576.4	237.6	60.1	1.000071
41000.0	196.3	-55.4		314.0	574.9	237.1	66.2	1.000070
41500.0	191.6	-56.5		308.0	573.5	236.5	73.6	1.000069
42000.0	186.9	-57.6		302.1	572.0	236.8	77.7	1.000067
42500.0	182.4	-58.7		296.3	570.5	234.0	74.3	1.000066
43000.0	178.0	-59.8		290.7	569.0	241.4	69.4	1.000065

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3951.40 FEET MSL  
2 OCT. 61 0815 HRS MDT  
ASCENSION NO. 35

UPPER AIR DATA  
27500-00000  
APACHE  
TABLE 10 CONT

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
43000.0	170.7	-60.9		285.2	567.6	243.9	1.000004
44000.0	169.5	-62.0		279.8	566.1	243.5	1.000062
44500.0	165.5	-63.1		274.5	564.6	242.3	1.000061
45000.0	161.5	-64.2		269.3	563.1	242.3	1.000060
45500.0	157.6	-65.4		264.2	561.6	242.4	1.000059
46000.0	153.8	-66.5		259.2	560.1	242.9	1.000058
46500.0	150.1	-67.6		254.3	558.6	244.1	1.000057
47000.0	146.4	-67.2		247.6	559.0	245.9	1.000055
47500.0	142.7	-66.9		241.1	559.5	247.3	1.000054
48000.0	139.2	-66.5		234.7	560.0	248.6	1.000052
48500.0	135.8	-66.2		228.5	560.5	248.1	1.000051
49000.0	132.4	-65.8		222.4	561.0	246.2	1.000050
49500.0	129.1	-65.7		216.8	561.1	242.0	1.000048
50000.0	125.9	-66.5		212.3	560.0	236.8	1.000047
50500.0	122.8	-67.4		207.8	558.9	230.9	1.000046
51000.0	119.7	-68.2		203.5	557.7	227.6	1.000045
51500.0	116.7	-69.1		199.2	556.6	224.7	1.000044
52000.0	113.8	-69.9		195.1	555.4	225.2	1.000043
52500.0	111.0	-70.6		190.8	554.4	226.1	1.000042
53000.0	108.2	-70.9		186.3	553.0	220.3	1.000041
53500.0	105.4	-71.3		181.4	553.5	229.9	1.000041
54000.0	102.0	-71.6		177.6	553.0	230.7	1.000040
54500.0	100.2	-72.0		173.4	552.6	230.9	1.000039
55000.0	97.7	-71.5		168.7	553.2	229.3	1.000038
55500.0	95.2	-71.0		164.1	553.9	226.4	1.000037
56000.0	92.8	-70.5		159.6	554.5	221.7	1.000036
56500.0	90.5	-70.0		155.3	553.2	217.1	1.000035
57000.0	88.3	-69.6		151.0	555.9	211.1	1.000034
57500.0	86.1	-69.1		146.9	556.6	206.0	1.000033
58000.0	83.9	-68.6		142.9	557.2	200.6	1.000032
58500.0	81.8	-68.1		139.0	557.9	197.9	1.000031
59000.0	79.8	-67.6		135.2	558.0	195.3	1.000030
59500.0	77.8	-67.1		131.5	559.3	194.2	1.000029
60000.0	75.8	-66.6		127.9	559.9	192.8	1.000028
60500.0	74.0	-66.1		124.4	560.0	190.8	1.000027
61000.0	72.1	-65.6		121.0	561.3	188.2	1.000026
61500.0	70.3	-65.1		117.7	561.9	184.1	1.000026
62000.0	68.6	-64.6		114.0	562.6	178.5	1.000025
62500.0	66.9	-64.1		111.5	563.3	169.3	1.000025
63000.0	65.3	-63.5		108.6	564.0	158.0	1.000024

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LONG DEG

UPPER AIR DATA  
27500-30000  
APACHE  
TABLE 10 CONT

STATION ALTITUDE 3951.00 FEET MSL  
2 OCT. 61 0815 HRS H.D.  
ASCENSION NO. 35

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEW POINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION SPEED KNOTS (DEGREES (TN)	INDEX OF REFRACTION
03500.0	63.8	-63.0		105.7	564.7	137.9	1.000024
04000.0	62.2	-62.5		102.4	565.4	123.7	1.000023
04500.0	60.7	-62.0		100.2	566.1	107.2	1.000022
05000.0	59.3	-61.5		97.5	566.8	64.0	1.000022
05500.0	57.8	-61.0		94.9	567.5	350.9	1.000021
06000.0	56.4	-60.5		92.4	568.2	327.7	1.000021
06500.0	55.1	-59.9		90.0	568.9	339.0	1.000020
07000.0	53.7	-59.4		87.6	569.5	347.9	1.000020
07500.0	52.4	-58.9		85.3	570.2	346.8	1.000019
08000.0	51.2	-58.4		83.0	570.9	348.8	1.000018
08500.0	49.9	-57.9		80.0	571.6	3.3	1.000018
09000.0	48.8	-57.6		78.8	571.9	19.7	1.000018
09500.0	47.6	-57.4		76.9	572.3	18.0	1.000017
70000.0	46.5	-57.1		75.0	572.6	20.0	1.000017
70500.0	45.4	-56.9		73.2	573.0	42.0	1.000016
71000.0	44.4	-56.6		71.4	573.3	48.5	1.000016
71500.0	43.3	-56.3		69.6	573.6	48.7	1.000015
72000.0	42.3	-56.1		67.9	574.0	48.9	1.000015
72500.0	41.3	-55.8		66.2	574.3	71.4	1.000015
73000.0	40.4	-55.6		64.0	574.7	147.9	1.000014
73500.0	39.4	-55.3		63.0	575.0	173.7	1.000014
74000.0	38.5	-55.0		61.5	575.4	178.4	1.000014
74500.0	37.6	-54.8		60.0	575.7	180.3	1.000013
75000.0	36.7	-54.5		58.5	576.0	181.3	1.000013
75500.0	35.9	-54.3		57.1	576.4	182.1	1.000013
76000.0	35.0	-54.0		55.7	576.7	180.7	1.000012
76500.0	34.2	-53.7		54.3	577.1	178.5	1.000012
77000.0	33.4	-53.5		53.0	577.4	156.6	1.000012
77500.0	32.6	-53.2		51.7	577.8	60.5	1.000012
78000.0	31.9	-53.0		50.4	578.1	37.7	1.000011
78500.0	31.1	-52.7		49.2	578.4	29.1	1.000011
79000.0	30.4	-52.4		47.9	578.8	25.2	1.000011
79500.0	29.7	-52.3		46.8	579.0	31.7	1.000010
80000.0	29.0	-52.2		45.7	579.1	39.5	1.000010
80500.0	28.3	-52.1		44.6	579.2	47.7	1.000010
81000.0	27.7	-52.1		43.6	579.3	53.7	1.000010
81500.0	27.0	-52.0		42.6	579.4	58.0	1.000009
82000.0	26.4	-51.9		41.6	579.4	71.7	1.000009
82500.0	25.8	-51.9		40.6	579.5	83.0	1.000009
83000.0	25.2	-51.8		39.7	579.6	103.3	1.000009

STATION ALTITUDE 3951.40 FEET .SL 2 OCT. 61 0815 HRS MDT ASCENSION 140. 35				UPPER AIR DATA 2750050035 APACHE				GEODETIC COORDINATES 32.62700 LAT DEG 106.39352 LONG DEG			
TABLE 10 CONT											
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL.HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION			
83500.0	24.6	-51.7		30.7	579.7	111.1	5.1	1.000009			
84000.0	24.1	-51.6		37.8	579.8	122.9	4.1	1.000008			
84500.0	23.5	-51.6		37.0	579.9	132.9	3.0	1.000008			
85000.0	23.0	-51.5		36.1	580.0	138.3	1.7	1.000008			
85500.0	22.4	-51.4		35.3	580.1	175.2	.5	1.000008			
86000.0	21.9	-51.4		34.4	580.2	85.5	.7	1.000008			
86500.0	21.4	-51.3		33.6	580.3	76.3	2.1	1.000007			
87000.0	20.9	-51.2		32.8	580.4	74.7	3.4	1.000007			
87500.0	20.4	-51.2		32.1	580.4	97.4	2.2	1.000007			
88000.0	20.0	-51.1		31.3	580.5	142.9	1.9	1.000007			
88500.0	19.5	-51.0		30.6	580.6	180.5	2.5	1.000007			
89000.0	19.1	-51.0		29.9	580.7	203.0	3.3	1.000007			
89500.0	18.6	-50.9		29.2	580.7	215.6	4.3	1.000006			
90000.0	18.2	-50.9		28.5	580.8	222.5	5.3	1.000006			
90500.0	17.8	-50.8		27.9	580.9	222.5	4.4	1.000006			
91000.0	17.4	-50.8		27.2	580.9	222.5	3.4	1.000006			
91500.0	17.0	-50.7		26.6	581.0	222.5	2.4	1.000006			
92000.0	16.6	-50.7		26.0	581.1	201.6	1.2	1.000006			
92500.0	16.2	-50.6		25.4	581.1	113.1	1.0	1.000006			
93000.0	15.8	-50.6		24.8	581.2	62.9	2.3	1.000006			
93500.0	15.5	-50.5		24.2	581.3	73.8	4.0	1.000005			
94000.0	15.1	-50.5		23.7	581.3	69.1	5.8	1.000005			
94500.0	14.8	-50.4		23.1	581.4	66.6	7.7	1.000005			
95000.0	14.4	-50.4		22.6	581.5			1.000005			
95500.0	14.1	-50.3		22.1	581.5			1.000005			
96000.0	13.8	-50.3		21.5	581.6			1.000005			
96500.0	13.5	-50.2		21.0	581.7			1.000005			
97000.0	13.2	-50.2		20.6	581.7			1.000005			
97500.0	12.9	-50.1		20.1	581.8			1.000004			

STATION ALTITUDE 3951.40 FEET MSL  
2 OCT. 63 085 HRS M D  
ASCENSION 110. 35

MANDATORY LEVELS  
2750050035  
APACHE

TABLE 11

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LONG DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
					DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5007.	15.5	12.6	83.	164.4	11.4
800.0	6692.	12.8	12.2	90.	173.9	15.0
750.0	8470.	10.7	10.0	95.	191.9	15.7
700.0	10354.	7.4	6.7	95.	202.9	15.5
650.0	12350.	3.9	3.8	99.	188.4	18.0
600.0	14475.	.4	.3	99.	184.8	24.2
550.0	16764.	-1.4	-1.6	99.	189.5	26.7
500.0	19236.	-8.3	-12.4	72.	187.7	23.1
450.0	21898.	-12.7	-17.4	68.	171.7	21.8
400.0	24811.	-20.5	-40.3	15.	215.2	29.0
350.0	28016.	-26.5	-44.3	17.	223.2	33.3
300.0	31610.	-34.5	-48.2	23.	230.5	34.1
250.0	35715.	-43.7			233.8	52.2
200.0	40519.	-54.5			237.5	61.3
175.0	43286.	-60.6			243.2	64.8
150.0	46383.	-67.6			244.0	69.3
125.0	50004.	-66.8			235.4	36.0
100.0	54362.	-72.0			230.7	31.9
80.0	58722.	-67.6			195.7	8.0
70.0	61377.	-65.0			183.7	10.7
60.0	64484.	-61.7			93.6	4.0
50.0	68222.	-57.0			1.4	3.4
40.0	72864.	-52.5			161.4	4.0
30.0	78926.	-52.5			28.0	5.2
25.0	82800.	-51.0			105.1	5.9
20.0	87555.	-51.1			135.2	1.8
15.0	93702.	-50.5			60.3	6.3

\*\* AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

24

STATION ALTITUDE 4051.00 FEET MSL  
2 OCT. 61 0850 HRS MDT  
ASCENSION NO. 161

SIGNIFICANT LEVEL DATA  
2750030161  
JALLEN

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LONG DEG

TABLE 12 CONT

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MFL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
71.7	61132.2	-63.3		
70.0	61619.2	-63.3		
61.9	64121.2	-62.3		
59.1	65069.4	-60.5		
50.0	68525.9	-50.5		
44.3	71049.9	-56.9		
43.3	71530.6	-54.4		
33.4	77061.8	-51.8		
30.0	79359.5	-52.6		
20.0	80085.1	-49.6		
15.4	93783.2	-47.1		

GEODETIC COORDINATES  
33-16712 LAT DEG  
106-49511 LONG DEG

UPPER AIR DATA  
2/50030161  
JALLEN

TABLE 13

STATION ALTITUDE 4,510.0 FEET (SL)  
2 OCT. 51  
8850 HRS MD  
ASLATION NO. 101

GEOMETRIC ALTITUDE MSL FELT	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
4051.0	879.6	17.5	15.1	86.0	1046.5	660.6	0.0	0.0	1.000311
4500.0	865.6	16.5	14.6	88.3	1033.5	665.5	169.2	3.2	1.000305
5000.0	850.3	15.4	14.0	90.9	1019.2	669.2	169.2	6.9	1.000300
5500.0	835.2	14.6	13.2	91.4	1004.2	665.1	169.2	10.5	1.000293
6000.0	820.2	13.8	12.4	91.8	989.3	662.1	168.7	12.4	1.000287
6500.0	805.6	12.9	11.7	92.2	976.7	661.1	167.4	11.8	1.000281
7000.0	791.2	12.1	10.9	92.6	960.3	660.0	174.4	11.7	1.000275
7500.0	777.0	10.4	9.3	93.0	949.3	657.9	165.2	12.2	1.000267
8000.0	762.4	-7.3	-8.2	93.0	937.4	655.7	192.0	13.8	1.000240
8500.0	746.1	4	-7	92.4	949.6	645.3	190.9	15.5	1.000241
9000.0	734.2	8.9	7.2	89.1	902.0	650.0	196.8	15.3	1.000249
9500.0	720.9	8.6	5.8	82.4	887.0	655.5	190.4	15.2	1.000242
10000.0	707.8	8.4	5.3	78.3	870.1	655.8	193.7	16.1	1.000236
10500.0	694.9	7.2	4.7	84.0	859.4	655.8	191.9	17.1	1.000233
11000.0	682.1	6.3	3.8	84.0	846.7	652.7	191.5	17.9	1.000228
11500.0	669.6	5.1	4.1	86.8	831.6	652.5	190.5	18.7	1.000225
12000.0	657.3	3.6	3.5	89.4	819.3	651.3	189.1	19.5	1.000221
12500.0	645.2	3.6	2.3	91.2	808.6	649.5	189.0	20.6	1.000216
13000.0	633.2	2.5	1.3	91.9	797.1	648.1	189.3	21.7	1.000211
13500.0	621.3	1.5	0.3	91.6	785.0	646.9	189.9	23.0	1.000206
14000.0	609.7	0.6	-0.6	91.3	773.1	645.7	190.4	24.2	1.000202
14500.0	598.3	-0.3	-1.6	91.1	761.4	644.6	190.2	24.7	1.000197
15000.0	587.1	-0.8	-2.1	91.0	748.4	644.0	190.0	25.0	1.000194
15500.0	576.0	-2.1	-3.4	91.0	736.1	642.4	190.0	25.0	1.000189
16000.0	565.1	-3.1	-4.4	91.0	726.9	641.1	189.8	24.5	1.000185
16500.0	554.4	-3.9	-5.1	91.0	715.1	640.2	189.3	23.0	1.000181
17000.0	543.8	-4.1	-5.3	91.0	702.1	639.9	187.8	22.2	1.000178
17500.0	533.4	-4.7	-6.1	90.2	690.4	639.2	185.1	22.2	1.000174
18000.0	523.2	-5.0	-7.4	88.2	680.0	637.8	183.5	23.4	1.000170
18500.0	513.2	-6.4	-8.3	86.0	668.5	637.1	182.6	25.3	1.000166
19000.0	503.3	-7.0	-9.3	83.8	657.3	636.3	183.5	26.2	1.000163
19500.0	493.6	-8.1	-10.3	84.0	647.4	634.9	184.6	27.0	1.000159
20000.0	484.1	-9.5	-11.4	85.6	638.2	633.2	181.6	30.0	1.000156
20500.0	474.6	-10.7	-12.7	85.2	628.9	631.7	179.2	33.2	1.000153
21000.0	465.3	-11.1	-13.1	71.9	617.6	631.1	175.9	36.6	1.000148
21500.0	456.2	-11.7	-13.0	59.6	607.1	630.3	175.9	40.1	1.000143
22000.0	447.2	-13.2	-10.1	61.2	596.0	628.5	175.4	39.0	1.000141
22500.0	438.3	-13.9	-10.7	66.5	586.2	627.7	175.4	36.3	1.000139
23000.0	429.6	-14.6	-20.1	62.5	576.3	626.7	175.2	33.7	1.000136
23500.0	421.1	-15.6	-25.7	41.5	569.2	625.4	177.6	26.1	1.000131



GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LONG DEG

WIND AIR U, V  
2750030101  
JALLEN

TABLE 13 CON'T

STATION ALTITUDE 4051.00 FEET SL  
2 OCT. 61  
ASCENSION NO. 101  
0850 HRS MST

GEODETIC ALTITUDE FSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND METERS PER SECOND	DIRECTION DEGREES (TH)	WIND DATA SPEED (KNOTS)	INDEX OF REFRACTION
24000.0	412.7	-10.8	28.0	561.5	623.9	190.9	18.0	1.000127
24500.0	404.4	-18.1	19.5	552.2	622.3	213.2	18.5	1.000125
25000.0	396.1	-19.3	15.2	543.0	620.7	222.7	22.7	1.000122
25500.0	387.9	-20.5	15.6	534.6	619.3	221.0	27.9	1.000120
26000.0	379.8	-21.6	16.1	525.9	617.9	219.0	29.5	1.000118
26500.0	371.9	-22.7	16.5	517.3	616.6	216.6	31.1	1.000116
27000.0	364.2	-23.9	17.0	509.8	615.2	216.1	31.4	1.000114
27500.0	356.6	-25.0	17.4	500.5	613.8	215.7	31.6	1.000112
28000.0	349.2	-26.1	17.8	492.3	612.3	215.9	32.3	1.000110
28500.0	341.9	-27.3	18.3	484.3	610.9	216.2	33.1	1.000109
29000.0	334.8	-28.4	18.7	476.4	609.5	216.9	33.4	1.000107
29500.0	327.8	-29.5	19.2	468.7	608.1	217.0	33.6	1.000105
30000.0	321.0	-30.7	19.6	461.1	606.7	217.4	34.0	1.000103
30500.0	314.3	-31.8	20.0	453.6	605.3	216.9	34.5	1.000102
31000.0	307.8	-32.9	20.5	446.3	603.8	217.0	35.2	1.000100
31500.0	301.4	-34.1	20.9	439.1	602.4	217.2	36.0	1.000098
32000.0	294.8	-35.2	19.0**	431.6	601.0	220.0	38.0	1.000097
32500.0	288.4	-36.3	16.5**	424.1	599.6	223.0	40.3	1.000095
33000.0	282.1	-37.4	13.9**	416.8	598.2	226.3	43.2	1.000093
33500.0	275.9	-38.5	11.4**	409.6	596.7	229.2	46.1	1.000091
34000.0	269.9	-39.6	8.0**	402.6	595.3	231.5	47.6	1.000090
34500.0	264.0	-40.8	6.3**	395.7	593.9	233.3	49.0	1.000088
35000.0	258.2	-41.9	3.7**	388.9	592.5	233.7	49.7	1.000087
35500.0	252.5	-43.0	1.2**	382.2	591.0	233.8	49.7	1.000085
36000.0	246.9	-44.1		375.5	589.6	233.3	48.6	1.000084
36500.0	241.2	-45.2		368.7	588.2	232.7	48.0	1.000082
37000.0	235.7	-46.3		362.0	586.8	231.9	48.5	1.000081
37500.0	230.4	-47.4		355.4	585.4	231.3	49.6	1.000079
38000.0	225.1	-48.5		348.9	584.0	230.9	51.8	1.000078
38500.0	220.0	-49.6		342.7	582.5	230.6	53.9	1.000076
39000.0	214.9	-50.7		336.6	581.1	230.3	55.1	1.000075
39500.0	210.0	-51.8		330.5	579.6	230.1	56.3	1.000074
40000.0	205.2	-52.9		324.6	578.2	229.8	57.6	1.000072
40500.0	200.5	-54.0		318.7	576.8	229.5	58.8	1.000071
41000.0	195.8	-55.2		313.0	575.4	230.1	60.0	1.000070
41500.0	191.2	-56.5		307.3	573.9	231.1	61.1	1.000068
42000.0	186.6	-57.8		302.0	571.6	232.1	62.2	1.000067
42500.0	182.2	-59.1		296.0	569.9	233.1	63.3	1.000066
43000.0	177.9	-60.4		291.2	568.3	234.1	64.5	1.000065
43500.0	173.5	-61.4		285.4	567.0	235.1	69.6	1.000064

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEODETIC COORDINATES  
J3.16712 LAT DEG  
106.49511 LONG DEG

UPPER AIR DATA  
27500030101  
JALLEN  
TABLE 13 CON'T

STATION ALTITUDE 4051.00 FEET MSL  
2 OCT. 61 0830 HRS PDf  
ASCENSION NO. 161

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	WIND SPEED KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
44000.0	169.3	-62.3		279.0	505.7	232.3	74.8	1.000062
44500.0	165.2	-63.3		274.2	504.4	232.4	75.0	1.000061
45000.0	161.1	-64.3		268.0	563.0	232.7	74.4	1.000060
45500.0	157.2	-65.2		263.4	561.7	235.6	70.6	1.000059
46000.0	153.4	-66.2		258.2	560.4	240.0	65.8	1.000058
46500.0	149.6	-65.8		251.3	561.0	242.9	61.4	1.000056
47000.0	145.9	-66.4		245.9	560.2	244.8	57.0	1.000055
47500.0	142.3	-66.8		240.2	559.7	244.2	53.1	1.000053
48000.0	138.8	-66.1		233.5	560.6	241.7	49.7	1.000052
48500.0	135.4	-65.4		227.0	561.5	236.7	47.2	1.000051
49000.0	132.0	-65.6		221.6	561.3	229.9	45.8	1.000049
49500.0	128.8	-65.9		216.4	560.9	224.9	44.4	1.000048
50000.0	125.6	-66.2		211.4	560.4	222.8	42.2	1.000047
50500.0	122.5	-66.5		206.5	560.0	220.5	40.0	1.000046
51000.0	119.5	-66.9		201.7	559.0	224.5	39.3	1.000045
51500.0	116.5	-67.9		197.7	558.1	228.6	38.8	1.000044
52000.0	113.6	-69.2		194.0	556.4	230.0	35.8	1.000043
52500.0	110.7	-70.4		190.3	554.7	229.7	31.3	1.000042
53000.0	108.0	-70.3		185.4	554.8	229.7	27.5	1.000041
53500.0	105.2	-69.9		180.3	555.4	230.5	24.8	1.000040
54000.0	102.6	-69.4		175.4	556.1	231.2	22.4	1.000039
54500.0	100.0	-70.0		171.5	555.3	229.2	21.5	1.000038
55000.0	97.5	-69.9		167.1	555.4	227.1	20.7	1.000037
55500.0	95.1	-69.8		162.8	555.5	222.3	19.2	1.000036
56000.0	92.7	-68.7		157.9	557.1	216.4	17.7	1.000035
56500.0	90.4	-67.2		152.9	559.0	214.2	18.1	1.000034
57000.0	88.1	-66.8		148.0	559.6	214.5	19.5	1.000033
57500.0	86.0	-66.6		145.0	559.9	214.5	19.7	1.000032
58000.0	83.8	-66.4		141.3	560.1	213.9	17.3	1.000031
58500.0	81.8	-66.2		137.7	560.4	212.9	14.9	1.000031
59000.0	79.7	-66.0		134.1	560.7	204.7	11.6	1.000030
59500.0	77.8	-65.8		130.7	560.9	190.7	8.7	1.000029
60000.0	75.9	-65.6		127.3	561.2	179.5	8.7	1.000028
60500.0	74.0	-65.4		124.1	561.5	174.2	10.8	1.000028
61000.0	72.2	-64.1		120.3	563.3	170.5	10.5	1.000027
61500.0	70.4	-63.3		116.9	564.4	167.5	9.0	1.000026
62000.0	68.7	-63.1		114.0	564.0	163.3	7.5	1.000025
62500.0	67.0	-62.9		111.1	564.0	162.8	5.1	1.000025
63000.0	65.4	-62.7		108.3	563.1	162.5	2.7	1.000024
63500.0	63.8	-62.5		105.6	563.4	131.1	.9	1.000024

UPPER AIR DATA  
2750030161  
JALLEN

STATION ALTITUDE 4051.00 FEET MSL  
2 OCT. 61 0850 HRS MDT  
ASCENSION IS. 161

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LONG DEG

TABLE 13 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES (TN))	SPEED KNOTS	INDEX OF REFRACTION
64000.0	62.3	-62.3		102.9	565.0	55.0	1.5	1.000023
64500.0	60.8	-61.6		100.1	560.7	39.0	3.0	1.000022
65000.0	59.3	-60.6		97.2	567.9	23.8	2.1	1.000022
65500.0	57.9	-60.3		94.7	568.4	343.6	1.4	1.000021
66000.0	56.5	-60.0		92.3	569.8	276.0	1.8	1.000021
66500.0	55.1	-59.7		90.0	569.2	240.4	4.0	1.000020
67000.0	53.8	-59.4		87.7	569.6	231.3	6.7	1.000020
67500.0	52.5	-59.1		85.5	570.0	227.2	6.8	1.000019
68000.0	51.3	-58.8		83.4	570.4	222.4	5.9	1.000019
68500.0	50.1	-58.5		81.3	570.7	218.2	5.3	1.000018
69000.0	48.9	-58.2		79.2	571.2	218.2	4.9	1.000018
69500.0	47.7	-57.9		77.2	571.6	218.2	4.5	1.000017
70000.0	46.6	-57.6		75.3	572.0	218.2	5.5	1.000017
70500.0	45.5	-57.2		73.4	572.4	218.2	6.7	1.000016
71000.0	44.4	-56.9		71.5	572.9	218.2	7.2	1.000016
71500.0	43.4	-56.6		69.1	576.0	218.2	6.5	1.000015
72000.0	42.4	-56.2		67.4	576.5	218.2	5.8	1.000015
72500.0	41.4	-55.9		65.8	576.8	201.7	3.8	1.000015
73000.0	40.4	-55.7		64.2	577.1	159.5	2.6	1.000014
73500.0	39.5	-55.5		62.6	577.4	122.4	3.8	1.000014
74000.0	38.6	-55.2		61.1	577.7	126.6	7.2	1.000014
74500.0	37.7	-55.0		59.6	578.0	128.1	10.5	1.000013
75000.0	36.8	-52.8		58.2	578.3	128.5	11.6	1.000013
75500.0	35.9	-52.5		56.8	578.6	128.4	9.9	1.000013
76000.0	35.1	-52.3		55.4	579.0	128.1	8.3	1.000012
76500.0	34.3	-52.1		54.0	579.3	127.9	5.1	1.000012
77000.0	33.5	-51.8		52.7	579.6	126.3	1.2	1.000012
77500.0	32.7	-52.0		51.5	579.4	309.3	2.7	1.000011
78000.0	32.0	-52.1		50.4	579.2	314.2	2.6	1.000011
78500.0	31.2	-52.3		49.3	579.0	322.5	2.1	1.000011
79000.0	30.5	-52.5		48.2	578.7	334.5	1.7	1.000011
79500.0	29.8	-52.6		47.1	578.6	342.2	1.2	1.000010
80000.0	29.1	-52.4		46.0	578.8	358.7	.8	1.000010
80500.0	28.5	-52.2		44.9	579.1	36.4	.6	1.000010
81000.0	27.8	-52.0		43.8	579.3	132.0	4.1	1.000010
81500.0	27.2	-51.9		42.8	579.5	136.5	8.3	1.000010
82000.0	26.5	-51.7		41.7	579.8	137.8	12.5	1.000009
82500.0	25.9	-51.5		40.8	580.0	139.5	13.1	1.000009
83000.0	25.3	-51.3		39.8	580.2	142.4	11.3	1.000009
83500.0	24.7	-51.2		38.8	580.4	140.3	9.6	1.000009

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LONG DEG

UPPER AIR DATA  
2750030161  
JALLEN  
TABLE 13 CONT

STATION ALTITUDE 451.00 FEET ASL  
2 OCT. 61 0850 HRS MDT  
ASCENSION NO. 161

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND METERS PER SECOND	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
84000.0	24.2	-51.0		37.9	580.6	154.3	7.2	1.000009
84500.0	23.6	-50.8		37.0	580.9	194.5	3.6	1.000008
85000.0	23.1	-50.7		36.1	581.1	205.7	4.9	1.000008
85500.0	22.6	-50.5		35.3	581.3	206.0	9.4	1.000008
86000.0	22.0	-50.3		34.4	581.5	204.6	8.7	1.000008
86500.0	21.5	-50.1		33.6	581.8	279.7	7.5	1.000007
87000.0	21.0	-50.0		32.8	582.0	273.2	6.4	1.000007
87500.0	20.6	-49.8		32.1	582.2	258.9	5.5	1.000007
88000.0	20.1	-49.6		31.3	582.4	237.3	5.4	1.000007
88500.0	19.6	-49.4		30.6	582.7	217.2	5.9	1.000007
89000.0	19.2	-49.2		29.8	583.0	203.1	6.7	1.000007
89500.0	18.7	-49.0		29.1	583.3	194.2	5.3	1.000006
90000.0	18.3	-48.8		28.4	583.6	179.8	4.2	1.000006
90500.0	17.9	-48.5		27.8	583.9	157.4	3.5	1.000006
91000.0	17.5	-48.3		27.1	584.1			1.000006
91500.0	17.1	-48.1		26.5	584.4			1.000006
92000.0	16.7	-47.9		25.8	584.7			1.000006
92500.0	16.3	-47.7		25.2	585.0			1.000006
93000.0	16.0	-47.4		24.6	585.3			1.000005
93500.0	15.6	-47.2		24.1	585.6			1.000005

STATION ALTITUDE 4051.00 FEET SL  
2 OCT. 51 0850 HRS MD,  
ASCENSION, NO. 101

MANDATORY LEVELS  
2750030101  
JALLEN  
TABLE 14

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LO. DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	ATK DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	5000.	15.4	13.9	91.	169.2	1.9
800.0	6692.	12.6	11.4	92.	167.5	11.6
750.0	8419.	-1.7	-2.0	93.	196.5	15.3
700.0	10291.	7.6	5.1	94.	192.3	16.7
650.0	12288.	4.2	2.0	90.	188.9	20.1
600.0	14412.	-2.2	-1.5	91.	190.2	24.6
550.0	16685.	-4.0	-5.3	91.	189.1	22.4
500.0	19143.	-7.2	-9.6	83.	183.9	20.4
450.0	21810.	-13.0	-19.2	59.	175.5	39.9
400.0	24729.	-18.8	-38.9	15.	222.9	20.1
350.0	27947.	-26.0	-43.3	18.	215.9	32.3
300.0	31547.	-34.3	-48.4	21.	217.3	30.2
250.0	35652.	-43.5			233.0	49.2
200.0	40463.	-54.1			229.5	58.9
175.0	43227.	-61.0			233.5	67.7
150.0	46325.	-65.7			242.6	62.0
125.0	49985.	-66.3			222.5	41.8
100.0	54337.	-70.0			229.3	21.6
80.0	58741.	-66.0			206.0	12.2
70.0	61411.	-63.3			166.0	8.7
60.0	64530.	-61.1			33.0	2.7
50.0	68272.	-58.5			218.2	5.3
40.0	72925.	-53.6			139.0	2.7
30.0	79024.	-52.6			338.0	1.4
25.0	82900.	-51.3			144.0	10.5
20.0	87676.	-49.6			235.3	5.4

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

EN

DATE  
FILME

2-8

DTIC